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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/721,894

11/25/2003

Gon Kim

K-0562

6278

34610 7590 01/31/2007
FLESHNER & KIM, LLP
P.O. BOX 221200
CHANTILLY, VA 20153

EXAMINER

PERRIN, JOSEPH L

ART UNIT

PAPER NUMBER

1746

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/721,894

Applicant(s)

KIM ET AL.

Examiner

Joseph L. Perrin, Ph.D.

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 5-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-4, in the reply filed on 04 December 2006 is acknowledged. The traversal is on the ground(s) that all claims could be searched "without serious burden", pointing to MPEP §803. This is not found persuasive because in accordance with MPEP §803: "For purposes of the initial requirement, a serious burden on the examiner may be *prima facie* shown by appropriate explanation of separate classification, or separate status in the art, or a different field of search as defined in MPEP § 808.02. That *prima facie* showing may be rebutted by appropriate showings or evidence by the applicant." In the instant case, the Examiner has provided a *prima facie* showing of separate classification and different field of search as shown in the Restriction Requirement. Applicant's allegations of coextensive search and no "serious burden" include no appropriate showings or evidence and, therefore, are not persuasive. Accordingly, the restriction is considered proper in accordance with MPEP §803.

2. The Examiner notes that amendment to the claims after the Restriction Requirement does not change the Restriction Requirement, otherwise doing so may result in another or different Restriction Requirement. Perpetual amendments and restrictions are clearly not in the best interest of compact prosecution. Even if, *arguendo*, one were to consider such amendment the claims would still be properly restricted since the apparatus could clearly perform another method (i.e. the method

steps are not required by the apparatus). Thus, the restriction based on the originally presented claims is maintained for at least the aforementioned reasons. Upon allowance of the elected apparatus claims, applicant's non-elected method claims may be considered for rejoinder (see MPEP §821.04).

3. The requirement is still deemed proper and is therefore made FINAL.

Information Disclosure Statement

4. It is noted that an Information Disclosure Statement under 37 CFR 1.97 for the present application has not been received by the Office. If Applicant believes this to be in error, Applicant is urged to submit documentation supporting a proper filing of any previously submitted information disclosure statements in order to have such disclosures considered by the Office.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 & 4 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,394,582 to MOON. MOON discloses a drum-type washing machine having a water supply unit (28/28A) and heater unit (2/29) each configured to perform their intended function according to an inputted control signal from a control unit

Art Unit: 1746

(20/23/24), and sensing means configured to detect a heating water level (below the heater, abnormal conditions) and a washing water level (normal washing conditions) based on sensed temperature (see Figures 1-2 and col. 2, lines 8-41). The temperature detecting means of MOON functions to detect an abnormal water level below the heater and a normal water level with the heater submerged which reads on sensing water level and temperature. MOON further discloses a water level sensing means (30). Thus, the temperature sensing means, either alone or in combination with the water level sensing means (30) are construed to read on the claimed sensor unit. Accordingly, recitation of MOON reads on applicant's claimed invention.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-2 & 4 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 6,553,594 to BROKER *et al.* ("BROKER"). BROKER discloses a drum type washing machine having a water supply unit configured to supply hot and/or cold water according to inputted control signal (col. 6, lines 11-30), a heater unit (170) configured to heat water to a predetermined temperature according to an inputted control signal, sensing means

(172/190) configured to sense a low, minimum water level submerging the heater, which must exist before heater activation (readable on heating water level; col. 6, line 66 – col. 7, line 9) and configured to sense temperature “after the desired wash level is reached” (col. 6, lines 54-61), and controlling the water supply/level and heater via control unit (180) (see entire document, for instance, the abstract, Figure 1 and relative associated text). Accordingly, recitation of BROKER reads on applicant's claimed apparatus.

9. While the Examiner takes the position that the sensing means of BROKER reads on a “sensor unit”, even if *arguendo*, one were to construe “sensor unit” as require a single sensor, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a functionally equivalent single sensor configured to sense water level and temperature for two sensors configured to sense water level and temperature, respectively, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893). Evidence supporting a functional equivalent sensor configured to sense both water level and temperature can be found throughout the prior art, for instance, sensor (21) in U.S. Patent No. 4,703,633 to BOSCOLO *et al.* or sensor (130) in U.S. Patent No. 5,167,722 to PASTRYK *et al.*

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over BROKER. Recitation of BROKER is repeated here from above. While BROKER discloses two water levels including a heating water level and washing water level, BROKER does not expressly disclose the water level proportions relative to each other. However, since BROKER clearly discloses two different sensed water levels the position is taken that it would have been within the level and knowledge of one having ordinary skill in the art at

the time the invention was made to optimize the range volumes to arrive at applicant's claimed water level (volume) ranges since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233, 255 (CCPA 1955). See also *In re Waite*, 77 USPQ 586 (CCPA 1948); *In re Scherl*, 70 USPQ 204 (CCPA 1946); *In re Irmischer*, 66 USPQ 314 (CCPA 1945); *In re Norman*, 66 USPQ 308 (CCPA 1945); *In re Swenson*, 56 USPQ 372 (CCPA 1942); *In re Sola*, 25 USPQ 433 (CCPA 1935); *In re Dreyfus*, 24 USPQ 52 (CCPA 1934). Further, it is to be expected that a change in water level (volume) range percentage would be an unpatentable modification. Under some circumstances, however, changes such as these may impart patentability to a process or apparatus if the particular ranges claimed produce a new and unexpected result which is different in kind and not merely degree from the results of the prior art, such ranges are termed critical ranges and the applicant has the burden of proving such criticality.

Conclusion

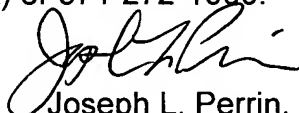
14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: U.S. Patent Publication No. 2003/0051296 to BROKER *et al.*, which is cumulative to BROKER cited above.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Perrin, Ph.D. whose telephone number is

(571)272-1305. The examiner can normally be reached on M-F 7:00-4:30, except alternate Fridays.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael E. Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Joseph L. Perrin, Ph.D.
Primary Examiner
Art Unit 1746

JLP